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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,811	11/21/2003	Patrick Hoscini	4740-252	3314
24112	7590	06/18/2007		
COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518			EXAMINER DOAN, KIET M	
			ART UNIT 2617	PAPER NUMBER
			MAIL DATE 06/18/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/719,811

Applicant(s)

HOSEIN, PATRICK

Examiner

Kiet Doan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. This office action is response to Remarks file on 04/04/2007.
2. The office withdrawn rejection Double Patenting base on the Remarks 04/04/2007.

***Response to Arguments***

3. Applicant's arguments filed 04/04/2007 have been fully considered but they are not persuasive.

4. In response to applicant's argument that neither reference teaches "estimating a reverse link load;

transmitting the target transmit power to at least one mobile station" and "transmitting a periodic load indication indicative of the reverse link load on a common control channel to one or more mobile stations"

Examiner respectfully disagrees, In Black (US 6,397,070) teaches method and apparatus for estimate reverser link loading in wireless communication and further teach "estimating a reverse link load;

transmitting the target transmit power to at least one mobile station" (Title, abstract, C5, L8-15, C60-67 teach estimate reverse link loading and base station 10 transmit signal to remote station 12) and

Soliman (US 5,859,838) teaches "transmitting a periodic load indication indicative of the reverse link load on a common control channel to one or more mobile stations" (Abstract, C7, L14-65 teach base station communicated periodically with mobile station

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wherein the base station couple to load monitoring device 102 which transmitting periodic load indication of the reverse link load to mobile station).

Therefore, examiner interpreted “estimating a reverse link load; transmitting the target transmit power to at least one mobile station” and “transmitting a periodic load indication indicative of the reverse link load on a common control channel to one or more mobile stations” as broadest reasonable interpretation and it is proper.

5. In response to applicant’s argument that Black reference does not teach “rate change probability as a function of a current transmit power of mobile station”.

Examiner respectfully disagrees, in Black reference teaches “rate change probability as a function of a current transmit power of mobile station” (C5, L56-67, C6, L1-25 teach the adjusting the transmission of reverse link signal in the form of data rate wherein the base station transmitted to mobile station and the rate change probability is read on base station adjusting the transmission).

Therefore, examiner interpreted “rate change probability as a function of a current transmit power of mobile station” as broadest reasonable interpretation and it is proper.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claim 1-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over by Black (Patent No. 6,397,070) in view of Soliman (Patent No. 5,859,838).

Consider **claims 1, 10**. Black teaches a method of common rate control in a reverse link channel in a CDMA network, comprising:

estimating a reverse link load (Title);

determining a desired target transmit power based on the estimated reverse link load; and

transmitting the target transmit power to at least one mobile station (Abstract, C5, L8-56, C7, L43-55, C8, L36-67, C9, L1-56, Fig.1 Illustrate transmitting reverse link load from base station No.10 to one or more mobile stations No.12). Black teaches the limitation of claims as discuss **but silent on** transmitting a periodic load indication indicative of the reverse link load on a common control channel to one or more mobile stations.

In an analogous art, Soliman teaches " Load monitoring and management in a CDMA wireless communication system". Further, **Soliman teaches** transmitting a periodic load indication indicative of the reverse link load on a common control channel

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to one or more mobile stations (Abstract, C6, L51-67, C7, L1-50 teach Base station periodic communication with load device 102).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Black and Soliman system, such that estimating a reverse link load and transmitting a periodic load indication indicative of the reverse link load on a common control channel and transmit power based on the estimated reverse link load to mobile station to provide means for improved and accurate reverse link loading in CDMA network.

Consider **claims 2, 11**. Black teaches the method of claim 1 wherein transmitting the target transmit power to at least one mobile station comprises transmitting the target transmit power to the mobile station at connection setup (C2, L55-67, C3, L35-58, C9, L20-41).

Consider **claims 3, 12**. Black teaches the method of claim 1 wherein transmitting the target transmit power to at least one mobile station comprises transmitting the target transmit power to the mobile station following a handoff (C9, L23-35).

Consider **claims 4, 13**. Black teaches the method of claim 1 wherein transmitting the target transmit power to at least one mobile station comprises transmitting the target transmit power to a plurality of mobile stations over a common control channel (C2, L55-67, C9, L20-41).

Consider **claims 5, 14**. Black teaches the method of claim 1 wherein determining a desired target transmit power based on the estimated reverse link load comprises determining an estimated target transmit power for all mobile stations transmitting on the reverse link channel such that the expected total received power at the base station from all mobile stations is at a desired total received power level (C3, L35-58, C9, L20-41).

Consider **claims 6, 15**. Black teaches the method of claim 1 wherein determining a desired target transmit power comprises incrementally adjusting the target transmit power based on the periodic load indications (C3, L35-58, C6, L15-30).

Consider **claims 7, 16**. Black teaches the method of claim 1 wherein a load indication is transmitted periodically to the mobile stations at a predetermined rate change interval (C4, L3-10, C6, L51-66)..

Consider **claims 8, 17**. Soliman teaches the method of claim 7 wherein the target transmit power is updated periodically (C4, L3-10, C6, L51-66).

Consider **claims 9, 18**. Black teaches the method of claim 8 wherein the target transmit power is updated at least once in each rate change interval (C5, L56-67, C6,

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L1-25).

7. **Claims 19-20, 34-35** are rejected under 35 U.S.C. 103(a) as being unpatentable over by Black (Patent No. 6,397,070) in view of Attar et al. (Pub. No. 2004/0202136).

Consider **claims 19, 34**. Black teaches a method of dynamically adjusting a data transmission rate of a mobile station, comprising:

determining a rate change probability as a function of a current transmit power of mobile station (C5, L56-67, C6, L1-25 teach adjust the data rate in response to signal which means as determining a rate change);. Black teach the limitation of claims as discuss **but silent on and**

selectively changing the data transmission rate of the mobile station based on the rate change probability.

In an analogous art, Attar teaches "Wireless communication rate shaping".

Further, **Attar teaches and**

selectively changing the data transmission rate of the mobile station based on the rate change probability (Abstract, Paragraphs [0029], [0034-0035])

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Black and Attar system, such that determining a rate change power of mobile station and selectively changing the data transmission rate to provide means for reduce interference and better service to mobile station.



Consider **claims 20, 35**. Attar teaches the method of claim 19 wherein determining a rate change probability as a function of a current transmit power of mobile station comprises: storing a target transmit power in the mobile station; and computing a rate change probability as a function of the current transmit power of the mobile station and the target transmit power (Paragraphs [0050-0054]).

8. **Claims 21-48** are rejected under 35 U.S.C. 103(a) as being unpatentable over by Black (Patent No. 6,397,070) in view of Attar et al. (Pub. No. 2004/0202136) and further view of Soliman (Patent No. 5,859,838).

Consider **claims 21, 36**. Black and Attar teach the limitation of claims as discuss **but silent on** the method of claim 19 further comprising: receiving periodic load indications from a base station; and updating the target transmit power based on the periodic load indications from the base station.

Soliman teaches the method of claim 19 further comprising: receiving periodic load indications from a base station; and updating the target transmit power based on the periodic load indications from the base station (C4, L3-10, C6, L51-66).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Black, Attar and Soliman system, such that receiving periodic load indications from a base station; and updating the target transmit power based on the periodic load indications from the base station for improved and accurate reverse link loading in CDMA network.

Consider **claims 22, 37**. Attar teaches the method of claim 20 wherein computing a rate change probability as a function of the current transmit power of the mobile station and the target transmit power comprises:

- computing a first power differential between the current transmit power and the target transmit power;

- computing a second power differential between the current transmit power and a maximum or minimum transmit power; and

- determining a power differential ratio of the first and second power differentials;
- and

- determining the rate change probability as a function of the power differential ratio (Paragraphs [ 0039-0042], [0050-0054]).

Consider **claims 23, 38**. Attar teaches the method of claim 22 wherein the rate change probability is equal to the power differential ratio (Paragraphs [0025-0026]).

Consider **claims 24, 39**. Attar teaches the method of claim 22 wherein the rate change probability is the maximum of 1 and the power differential ratio (Paragraphs [0039-0042]).

Consider **claims 25-26, 40-41**. Black teaches the method of claim 20 further comprising receiving the target transmit power from the base station (C2, L55-67, C3,

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L35-58, C9, L20-41).

Consider **claims 27, 42**. Black teaches the method of claim 20 wherein the target transmit power is received by the mobile station following a handoff (C9, L23-35).

Consider **claims 28, 43**. Black teaches the method of claim 20 wherein the target transmit power is received by the mobile station over a common control channel (C2, L55-67, C9, L20-41).

Consider **claims 29, 44**. Attar teaches the method of claim 19 wherein determining a rate change probability as a function of a current transmit power of mobile station comprises:

- computing a load tracking value representative of the reverse link load at the mobile station;

- computing a first rate change probability if the load tracking value is within a defined range that is dependent on the current transmit power of the mobile station; and

- computing a second rate change probability if the load tracking value is outside the defined range (Paragraphs [0039-0049]).

Consider **claims 30, 45**. Attar teaches the method of claim 29 wherein the first rate change probability is set to 0 when the load tracking value is within the defined range (Paragraphs [0039-0042]).

Consider **claims 31-33, 46-48**. Attar teaches the method of claim 29 wherein the second rate change probability varies depending on the distance of the load tracking value from a reference value (Paragraphs [0050-0055]).

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

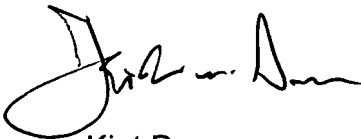
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiet Doan whose telephone number is 571-272-7863. The examiner can normally be reached on 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kiet Doan  
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